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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,529	08/23/2005	Ralf Dunkel	CS-848/LcA 36186	5968

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EXAMINER	
CHENG, KAREN	

ART UNIT	PAPER NUMBER
1626	

MAIL DATE	DELIVERY MODE
08/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,529	DUNKEL ET AL.	
	Examiner	Art Unit	
	Karen Cheng	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-31 are currently pending in the instant application. Claims 1-23 have been cancelled by the applicant.

Response to Arguments/Amendment

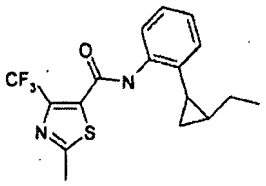
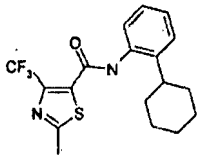
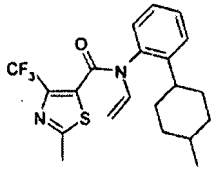
Applicants' arguments and amendments to the claims filed on 06/21/07 have been fully considered and entered into the application.

Applicants' arguments in regards to the following rejections and objections have been considered but are not found persuasive.

• The double patenting rejections over co-pending US Patent Application Nos. 10/530,513 and 10/502,994 are maintained since the definition of C_3-C_{12}-cycloalkenyl and C_6-C_{12}-bicycloalkenyl found in the specification does not specifically indicate that these terms do not include aromatic substituents. Although groups such as cyclohexyl are described as preferred in the specification, a phenyl group is still a cyclic 6 carbon structure containing alkene (double) bonds.

• The 35 USC 102(b) rejections of Claims 13-16, 18, 21-23, now the equivalent of new Claims 24-31, over Schelberger *et al* (US Pat No. 6,346,538) and Eicken *et al* (US Pat No. 5,998,450) are maintained since the definition of C_3-C_{12}-cycloalkenyl and C_6-C_{12}-bicycloalkenyl found in the specification does not specifically indicate that these terms do not include aromatic substituents. Although groups such as cyclohexyl are described as preferred in the specification, an aromatic substituent, such as phenyl group, is still a cyclic 6 carbon structure containing alkene (double) bonds.

• The 35 USC 103(a) rejections of Claims 13-16, 18, 20-23, now the equivalent of new Claims 24-31 over Eicken *et al* (US Pat No. 5,998,450) are maintained since the definition of C_3-C_{12}-cycloalkenyl and C_6-C_{12}-bicycloalkenyl found in the specification does not specifically indicate that these terms do not include aromatic substituents. Although groups such as cyclohexyl are described as preferred in the specification, an aromatic substituent, such as phenyl group, is still a cyclic 6 carbon structure containing alkene (double) bonds

• Applicants' arguments in regards to the 35 USC 103(a) rejections of Claims 13-16, 18, 20-23, now the equivalent of new Claims 24-31 over Ehrenfreund *et al* (WO 2003/074491), Eicken *et al* (US Patent No. 5,480,897) and Walter *et al* (WO 2002/059086) have been considered but are not found persuasive. Applicant argues that there is no motivation to substitute the CF_2H (as claimed in the instant application) for the CF_3 which is the only difference between the instantly claim compounds and the compounds of Ehrenfreund (WO 2003/074491) for example,  , Eicken (US Patent No. 5,480,897) for example,  and Walter (WO 2002/059086) for example,  . However the Examiner respectfully disagrees with this argument. As seen in the prior art of Schelberger *et al* (US Pat No. 6,346,538) and

Eicken *et al* (US Pat No. 5,998,450) used in the rejections under 102(b) previously made, the substitution of a CF_2H for the CF_3 in the 4-position of the thiazole ring is a commonly employed substitution found in compounds that are useful in controlling harmful organisms, such as fungi. Therefore the motivation to substitute a CF_2H for the CF_3 in the 4-position of the thiazole ring is clear as the prior art has shown this substitution performed on compounds that have similar activity to those of the instant application. Specifically Schelberger *et al* in US Patent No. 6,346,538 shows that the possible substitutions of the 4-position of the thiazole ring include methyl, difluoromethyl, trifluoromethyl or chlorine (column 7, line 55). The Patani *et al* reference is a review article that showcases various classical and non-classical bioisosteric substitutions made in pharmaceuticals. Patani *et al* states on page 3147 that, "The concept of bioisosterism is often considered to be qualitative and intuitive." Patani *et al* describe that the difference in electronic effects (fluorine being the most electronegative element in the periodic table) is often the basis for the major differences in the pharmacological properties of agents where fluorine has been substituted for hydrogen. At the end of the section on fluorine/hydrogen replacements on page 3150, Patani *et al* states that, "Thus, the ability of fluorine to replace hydrogen is an effective method of exploring the affinity of an agent to the target site (receptor or enzyme) by virtue of its greater electronegativity while other parameters such as steric size and lipophilicity are maintained." Therefore, Patani *et al* simply supports the position that substitution of fluorine and hydrogen for one another is well known in the pharmaceutical arts. Furthermore the decision in KSR forecloses the argument that a **specific** teaching,

suggestion, or motivation is required to support a finding of obviousness. See *Ex parte Smith*, USPQ2d, 1396 (Bd. Pat. App. & Inter. 06/25/07).

The declaration under 37 CFR 1.132 filed 07/30/07 is insufficient to overcome the rejection of Claims 13-16, 18, 20-23, now the equivalent of new Claims 24-31 based upon 35 USC 103(a) as set forth in the last Office action. The Wachendorff-Neumann declaration shows an 22% increase of protective activity of a claimed compound towards Sphaerotheca (cucumbers) that have CF_2H rather than CF_3 in the 4-position of the thiazole. However, the evidence relied upon should establish "that the differences in results are in fact unexpected and unobvious and of both statistical and practical significance." *Ex parte Gelles*, 22 USPQ2d 1318, 1319 (Bd. Pat. App. & Inter. 1992). Applicant alleges that there are unexpected results with regard to the activity of the claimed compound but fails to offer an explanation as to why the data that has been provided is unexpected. One does not know if a compound containing a CF_2H rather than CF_3 substituent should have better or worse activity, so it cannot be said that the results are unexpected.

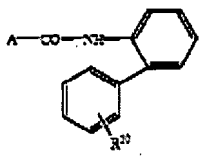
Maintained Claim Rejections - 35 USC § 102

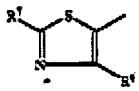
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

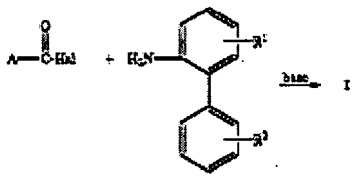
Claims 13-16, 18, 21-23, now the equivalent of new Claims 24-27 and 29-31, are rejected under 35 U.S.C. 102(b) as being anticipated by Schelberger *et al* in US Pat No.

6,346,538 issued on 02/12/2002, which claims priority to PCT No. PCT/EP98/08223 filed on 12/15/1998. Schelberger *et al* disclose compounds of formula



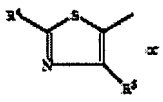
where A can be  and R^6 is difluoromethyl, R^7 is methyl, and R^{10} is C_1-C_4-alkyl, C_1-C_4-alkoxy, C_1-C_4-alkylthio or halogen (columns 6-7). These compounds anticipate applicant's claimed compounds wherein R^1 represents hydrogen, R^2 represents C_3-C_{12}-cycloalkenyl, which is optionally mono- or polysubstituted, and m is 0. The same compounds are anticipated by Schelberger *et al* in further patents (see columns 5-6 of US Pat No. 6,569,875; columns 5-6 of US Pat No. 6,372,748; columns 5-6 of US Pat No. 6,410,572; columns 7-8 of US Pat No. 6,365,608; columns 7-8 of US Pat No. 6,903,108; columns 6-7 of US Pat No. 6,489,348; columns 9-10 of US Pat No. 6,350,765)

Claim 20, now Claim 28, is rejected under 35 U.S.C. 102(b) as being anticipated by Eicken *et al* in US Pat No. 5,998,450 issued on 12/07/1999. Eicken *et al* teach a process of preparing said compounds by reacting



II III

Hal is halogen, preferably chlorine or bromine;
R^1 is fluorine;
R^2 is hydrogen, halogen, C_1-C_4-alkyl, trifluoromethyl, C_1-C_4-alkoxy or C_1-C_4-alkylthio;

wherein A is  (A2)

and R^4 is methyl and R^5 is difluoromethyl (see column 2).

Maintained Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

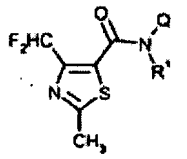
The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

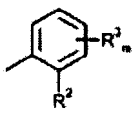
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 13-16, 18, 20-23, now the equivalent of new Claims 24-31, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehrenfreund *et al* (WIPO Pub No. WO 2003/074491) in view of Patani *et al* (Chem. Rev. 1996, 96, 3147-3150) and Eicken *et al* (US Pat No. 5,998,450) in view of Patani *et al* (Chem. Rev. 1996, 96, 3147-3150)

and Eicken *et al* (US Pat No. 5,480,897) in view of Patani *et al* (Chem. Rev. 1996, 96, 3147-3150) and Walter *et al* (US Pub No. 20040138265) in view of Patani *et al* (Chem. Rev. 1996, 96, 3147-3150) and Walter *et al* (WO 2002059086 or US Pub No. 20040138265) in view of Patani *et al* (Chem. Rev. 1996, 96, 3147-3150).

Applicants' instant elected invention in claims 13-16, 18, 20-23, now the equivalent of new Claims 24-31, teaches compounds, compositions, method of use, and process of making of formula



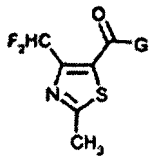
where Q represents  and

R^1 represents hydrogen, C_1-C_8-alkyl, C_1-C_8-alkylsulfinyl, C_1-C_8-alkylsulfonyl, C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_8-cycloalkyl; represents C_1-C_6-haloalkyl, C_1-C_4-haloalkylsulfanyl, C_1-C_4-haloalkylsulfinyl, C_1-C_4-haloalkylsulfonyl, halo-C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_8-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms; or represents $-COR^7$, $-CONR^8R^9$, or $-CH_2NR^{10}R^{11}$,

R^2 represents C_3-C_{12}-cycloalkyl, C_3-C_{12}-cycloalkenyl, C_6-C_{12}-bicycloalkyl, C_6-C_{12}-bicycloalkenyl, each of which is mono- or polysubstituted by identical or different substituents selected from the group consisting of halogen, cyano, hydroxyl, C_1-C_8-alkyl, C_1-C_8-alkoxy, C_1-C_8-haloalkyl having 1 to 9 fluorine, chlorine, and/or bromine atoms, and C_1-C_6-haloalkoxy having 1 to 9 fluorine, chlorine, and/or bromine atoms,

R^3 represents fluorine, chlorine, bromine, or methyl,

and m represents 0, 1, 2, 3, or 4. Further a process of preparation of said compound by reacting



(II)

in which G represents halogen, hydroxyl, or C_1-C_6-alkoxy,

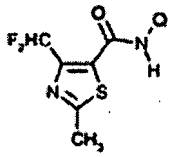
with an aniline derivative of formula (III)

(III)

in which Q is as defined for formula (I) in Claim 13,

in the presence of an acid binder and in the presence of a diluent

to form a compound of formula (I-a)

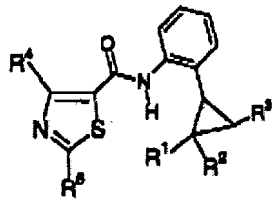


(I-a)

is taught.

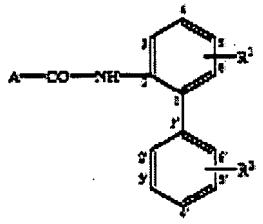
Determination of the scope and content of the prior art (MPEP §2141.01)

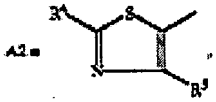
Ehrenfreund *et al* teach the preparation of compounds of the following formula (See WIPO Pub No. WO 2003/074491, p. 8-10)



Compound Number	R^1	R^2	R^3	R^4	R^5
4.1	H	H	CH_2CH_3	CF_3	CH_3
4.3	H	H	$CH_2CH_2CH_3$	CF_3	CH_3
4.5	H	H	$CH(CH_3)_2$	CF_3	CH_3
4.8	H	H	$CH_2CH_2CH_2CH_3$	CF_3	CH_3
4.10	H	H	$CH_2CH(CH_3)_2$	CF_3	CH_3
4.12	H	H	$C(CH_3)_3$	CF_3	CH_3
4.20	H	H	cyclopropyl	CF_3	CH_3
4.26	H	H	cyclohexyl	CF_3	CH_3
4.35	H	H	4-fluorophenyl	CF_3	CH_3

Eicken *et al* teach compounds of formula (See US Pat No. 5,998,450, columns 3-5)



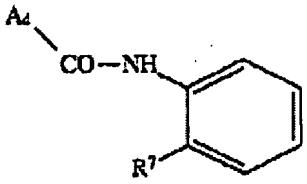


wherein

No.	A	R^1	R^2	R^3	R^4	R^5	R^6
1.53	A2	4-F	H	—	CH_3	CF_3	—
1.54	A2	4-F	3'-F	—	CH_3	CF_3	—
1.55	A2	4-F	3'-Cl	—	CH_3	CF_3	—
1.56	A2	4-F	3'-CH_3	—	CH_3	CF_3	—
1.57	A2	4-F	3'-OCH_3	—	CH_3	CF_3	—
1.58	A2	4-F	3'-$OCH(CH_3)_2$	—	CH_3	CF_3	—
1.59	A2	4-F	3'-Br	—	CH_3	CF_3	—
1.70	A2	4-F	4'-F	—	CH_3	CF_3	—
1.71	A2	4-F	4'-Cl	—	CH_3	CF_3	—
1.72	A2	4-F	4'-CH_3	—	CH_3	CF_3	—
1.73	A2	4-F	4'-OCH_3	—	CH_3	CF_3	—
1.74	A2	4-F	4'-SCH_3	—	CH_3	CF_3	—
1.75	A2	4-F	4'-CF_3	—	CH_3	CF_3	—
1.76	A2	5-F	3'-F	—	CH_3	CF_3	—
1.77	A2	5-F	3'-Cl	—	CH_3	CF_3	—
1.78	A2	5-F	3'-CH_3	—	CH_3	CF_3	—
1.79	A2	5-F	3'-OCH_3	—	CH_3	CF_3	—
1.80	A2	5-F	3'-$OCH(CH_3)_2$	—	CH_3	CF_3	—
1.81	A2	5-F	3'-Br	—	CH_3	CF_3	—
1.82	A2	5-F	4'-OCH_3	—	CH_3	CF_3	—
1.83	A2	5-F	4'-SCH_3	—	CH_3	CF_3	—
1.84	A2	5-F	4'-CF_3	—	CH_3	CF_3	—
1.85	A2	6-F	H	—	CH_3	CF_3	—
1.86	A2	6-F	3'-F	—	CH_3	CF_3	—
1.87	A2	6-F	3'-Cl	—	CH_3	CF_3	—
1.88	A2	6-F	3'-CH_3	—	CH_3	CF_3	—
1.89	A2	6-F	3'-OCH_3	—	CH_3	CF_3	—
1.90	A2	6-F	3'-$OCH(CH_3)_2$	—	CH_3	CF_3	—
1.91	A2	6-F	3'-Br	—	CH_3	CF_3	—
1.92	A2	6-F	4'-CH_3	—	CH_3	CF_3	—
1.93	A2	6-F	4'-OCH_3	—	CH_3	CF_3	—
1.94	A2	6-F	4'-SCH_3	—	CH_3	CF_3	—
1.95	A2	6-F	4'-CF_3	—	CH_3	CF_3	—

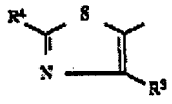
Eicken *et al* teach compounds of formula (See US Pat No. 5,480,897, columns 17 and 23, table 9)

Compounds of the formula V where A is A_4

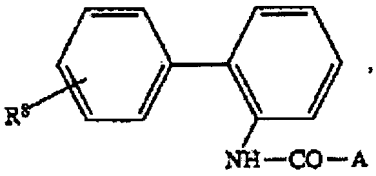


No.	R^3	R^4	R^7
9.50	CF_3	CH_3	Cyclopropyl
9.51	CF_3	CH_3	Cyclobutyl
9.52	CF_3	CH_3	Cyclopentyl
9.53	CF_3	CH_3	Cyclohexyl
9.54	CF_3	CH_3	2-Cyclopentenyl
9.55	CF_3	CH_3	1-Cyclopentenyl
9.56	CF_3	CH_3	2-Cyclohexenyl
9.57	CF_3	CH_3	1-Cyclohexenyl
9.58	CF_3	CH_3	Cyclopentyloxy
9.59	CF_3	CH_3	Cyclohexyloxy
9.60	CF_3	CH_3	2-Cyclopentenyloxy
9.61	CF_3	CH_3	2-Cyclohexenyloxy

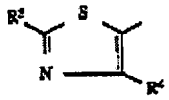
F

wherein A_4 is 

They also teach a process of preparation of compounds of formula

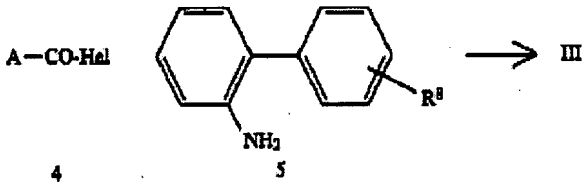


III

where A can represent  and R^3 is methyl, R^4 is trifluoromethyl and R^8 C_1–C_4-alkyl, C_1–C_4-alkoxy, C_1–C_4-alkylthio, halogen

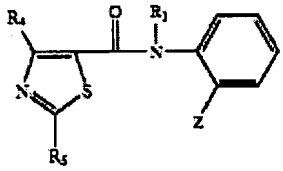
(A5)

by the following reaction:



Hal denoting chlorine or bromine, with an ortho-substituted aniline of the formula 5 in the presence of a base. The (see columns 12-14).

Walter *et al* teach compounds of formula (See WO 2002059086 or US Pub No. 20040138265, Table 4, columns 18-19).



wherein

Cmpd. no.	R_1	R_4	R_5	Z
4.01	$-CH_2CH=CH_2$	$-CF_3$	$-CH_3$	4-Cl-phenyl
4.02	$-CH_2CH=CH_2$	$-CF_3$	$-CH_3$	4-Br-phenyl
4.03	$-CH_2CH=CH_2$	$-CF_3$	$-CH_3$	4-Me-cyclohexyl
4.04	$-CH_2CH=CH_2$	$-CF_3$	$-CH_3$	3-Me-cyclohexyl
4.05	$-CH_2CH=CH_2$	$-CF_3$	$-CH_3$	cycloheptyl
4.07	$-CH_2C\equiv CH$	$-CF_3$	$-CH_3$	4-F-phenyl
4.08	$-CH_2C\equiv CH$	$-CF_3$	$-CH_3$	4-Cl-phenyl
4.09	$-CH_2C\equiv CH$	$-CF_3$	$-CH_3$	4-Br-phenyl
4.10	$-CH_2C\equiv CH$	$-CF_3$	$-CH_3$	3-Me-cyclopentyl
4.11	$-CH_2C\equiv CH$	$-CF_3$	$-CH_3$	4-Me-cyclohexyl
4.12	$-CH_2C\equiv CH$	$-CF_3$	$-CH_3$	3-Me-cyclohexyl
4.13	$-CH_2C\equiv CH$	$-CF_3$	$-CH_3$	cycloheptyl
4.19	$-COCH_3$	$-CF_3$	$-CH_3$	4-Cl-phenyl
4.20	$-COCH_3$	$-CF_3$	$-CH_3$	4-Br-phenyl
4.21	$-COCH_3$	$-CF_3$	$-CH_3$	3-Me-cyclopentyl
4.22	$-COCH_3$	$-CF_3$	$-CH_3$	4-Me-cyclohexyl
4.23	$-COCH_3$	$-CF_3$	$-CH_3$	3-Me-cyclohexyl
4.24	$-COCH_3$	$-CF_3$	$-CH_3$	cycloheptyl
4.26	$-COCH_2CH_3$	$-CF_3$	$-CH_3$	4-F-phenyl
4.27	$-COCH_2CH_3$	$-CF_3$	$-CH_3$	4-Cl-phenyl
4.28	$-COCH_2CH_3$	$-CF_3$	$-CH_3$	4-Br-phenyl
4.29	$-COCH_2CH_3$	$-CF_3$	$-CH_3$	cycloheptyl
4.31	$-COCH_2OCH_3$	$-CF_3$	$-CH_3$	4-Cl-phenyl
4.32	$-COCH_2OCH_3$	$-CF_3$	$-CH_3$	4-Br-phenyl

4.33	$-COCH_2OCH_3$	$-CF_3$	$-CH_3$	3-Me-cyclopentyl
4.34	$-COCH_2OCH_3$	$-CF_3$	$-CH_3$	4-Me-cyclohexyl
4.35	$-COCH_2OCH_3$	$-CF_3$	$-CH_3$	3-Me-cyclohexyl
4.36	$-COCH_2OCH_3$	$-CF_3$	$-CH_3$	cycloheptyl
4.38	$-COCH_2OCH_2CH_3$	$-CF_3$	$-CH_3$	4-F-phenyl
4.39	$-COCH_2OCH_2CH_3$	$-CF_3$	$-CH_3$	4-Cl-phenyl
4.40	$-COCH_2OCH_2CH_3$	$-CF_3$	$-CH_3$	cycloheptyl
4.42	$-COOCH_3$	$-CF_3$	$-CH_3$	4-F-phenyl
4.43	$-COOCH_3$	$-CF_3$	$-CH_3$	4-Cl-phenyl
4.44	$-COOCH_3$	$-CF_3$	$-CH_3$	4-Br-phenyl
4.45	$-COOCH_3$	$-CF_3$	$-CH_3$	cycloheptyl

Patani *et al* teach that similarities in physicochemical properties allow substitution of certain atoms to elicit similar biological activity and allow for the rational modification of compounds. On p. 3150, Patani states "the ability of fluorine to replace hydrogen is an effective method of exploring the affinity of an agent to the target site by virtue of its greater electronegativity while other parameters such as steric size and lipophilicty are maintained" (see 1st column, paragraph 1).

Ascertainment of the different between the prior art and the claims (MPEP §2141.02)

The difference between the prior art of Ehrenfreund *et al* in view of Patani *et al* and the instantly claimed compounds of Dunkel *et al* is that Ehrenfreund *et al* inventions have a CF_3 substituent on the 4-position of the thiazole ring rather than a CF_2H substituent in that position found in the instantly claimed invention.

The difference between the prior art of Eicken *et al* in view of Patani *et al* and the instantly claimed compounds of Dunkel *et al* is that Eicken *et al* inventions have a CF_3 substituent on the 4-position of the thiazole ring rather than a CF_2H substituent in that position found in the instantly claimed invention.

The difference between the prior art of Walter *et al* in view of Patani *et al* and the instantly claimed compounds of Dunkel *et al* is that Walter *et al* inventions have a CF_3

substituent on the 4-position of the thiazole ring rather than a CF_2H substituent in that position found in the instantly claimed invention.

Finding of prima facie obviousness- rational and motivation (MPEP §2142-2143)

The prior art of Ehrenfreund *et al* in view of Patani *et al* and Eicken *et al* in view of Patani *et al* and Walter *et al* in view of Patani *et al* are analogous art because all the compounds possess similar activity. The compounds of Ehrenfreund *et al* and Eicken *et al* and Walter *et al* have plant-protective properties and are suitable for protecting plants against infestations by phytopathogenic microorganisms. The teaching of Patani *et al* shows that substitution of hydrogen by fluorine is one of the more commonly employed replacements and can lead to pharmacological differences in the action of the compound. It is common for one skilled in the art to synthesize structurally related compounds in hopes of obtaining greater activity on the desired target. This is commonly known as structure-activity relationship (SAR) in the chemical arts. In the absence of unexpected results, one skilled in the art would expect that the instant claims which are analogous to the compounds of Ehrenfreund *et al* in view of Patani *et al* and the compounds and process of preparation of Eicken *et al* in view of Patani *et al* is prima facie and the compounds of Walter *et al* in view of Patani *et al*. The motivation to make the claimed compounds derives from the expectation that structurally similar compounds are generally expected to have similar properties and have similar utilities. In the instant case, substitution of a hydrogen atom for a fluorine atom would have been desirable in order to find compounds with greater activity in controlling unwanted microorganisms. The explicit teaching of Ehrenfreund *et al* in view of Patani *et al* as

well as Eicken *et al* in view of Patani *et al* and Walter *et al* in view of Patani *et al* together with the enabled examples would have motivated one skilled in the art to modify the known compounds with such generic teaching with the expectation that they would all have similar utility.

Maintained Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

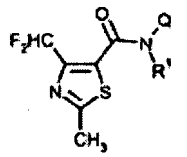
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

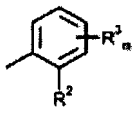
be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Rejection I:

Claims 13-18 and 21-23, now the equivalent of new Claims 24-31, are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18-25, 31-33 of copending Application No. 10/530513. Although the conflicting claims are not identical, they are not patentably distinct from the pending claims because applicants are claiming compounds of the following structure



where Q represents  and

R^1 represents hydrogen, C_1-C_6-alkyl, C_1-C_6-alkylsulfinyl, C_1-C_6-alkylsulfonyl, C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_8-cycloalkyl; represents C_1-C_6-haloalkyl, C_1-C_4-haloalkylsulfanyl, C_1-C_4-haloalkylsulfinyl, C_1-C_4-haloalkylsulfonyl, halo-C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_8-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms; or represents $-COR^7$, $-CONR^8R^9$, or $-CH_2NR^{10}R^{11}$.

R^2 represents C_3-C_{12}-cycloalkyl, C_3-C_{12}-cycloalkenyl, C_6-C_{12}-bicycloalkyl, C_6-C_{12}-bicycloalkenyl, each of which is mono- or polysubstituted by identical or different

substituents selected from the group consisting of

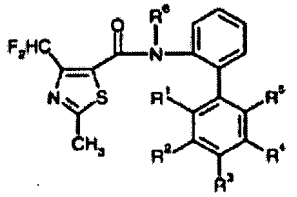
halogen, cyano, hydroxyl, C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-haloalkyl having 1 to 9 fluorine, chlorine, and/or bromine atoms, and C_1-C_6-haloalkoxy having 1 to 9 fluorine, chlorine, and/or bromine atoms,

R^3 represents fluorine, chlorine, bromine, or methyl,

and m represents 0, 1, 2, 3, or 4.

, a composition comprising one of said compounds and one or more extenders and/or surfactants, a method for controlling unwanted microorganisms comprising applying an effective amount of one of said compounds, and a process for preparing a composition comprising mixing one of said compounds with one or more extenders and/or surfactants.

Conflicting claims 8-25, 31-33 of copending Application No. 10/530513 are drawn to compounds of formula



wherein

R^6 represents C_1-C_6-alkyl, C_1-C_4-alkylsulfinyl, C_1-C_4-alkylsulfonyl, C_1-C_3-alkoxy-C_1-C_3-alkyl, or C_3-C_6-cycloalkyl; represents C_1-C_4-haloalkyl, C_1-C_4-haloalkylsulfanyl, C_1-C_4-haloalkylsulfinyl, C_1-C_4-haloalkylsulfonyl, halo-C_1-C_3-alkoxy-C_1-C_3-alkyl, C_3-C_6-halocycloalkyl having in each case 1 to 9 fluorine, chlorine, and/or bromine atoms; or represents $-COR^7$, $-CONR^8R^9$, or $-CH_2NR^{10}R^{11}$,

and

R^1, R^2, and R^3 independently of one another represent hydrogen, halogen, cyano, nitro, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_1-C_4-alkoxy, C_1-C_4-alkylthio, C_1-C_4-alkylsulfonyl, or C_3-C_6-cycloalkyl; or represent C_1-C_4-haloalkyl, C_1-C_4-haloalkoxy, C_1-C_4-haloalkylthio, or C_1-C_4-haloalkylsulfonyl having in each case 1 to 5 halogen atoms, or

R^1 and R^2 together or R^2 and R^3 together represent optionally halogen- or C_1-C_6-alkyl-substituted alkenylene,

R^4 and R^5 independently of one another represent hydrogen, halogen, cyano, nitro, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_1-C_4-alkoxy, C_1-C_4-alkylthio, C_1-C_4-alkylsulfonyl, or C_3-C_6-cycloalkyl; or represent C_1-C_4-haloalkyl, C_1-C_4-haloalkoxy, C_1-C_4-haloalkylthio, or C_1-C_4-haloalkylsulfonyl having in each case 1 to 5 halogen atoms, or

as well as a composition comprising one of said compounds and one or more extenders and/or surfactants, a method for controlling unwanted microorganisms comprising applying an effective amount of one of said compounds, and a process for preparing a composition comprising mixing one of said compounds with one or more extenders and/or surfactants.

The difference between the claims at issue and the conflicting claims is found in the scope of the claims. The instant claims are drawn to compounds wherein R^2 can represent C_3-C_{12}-cycloalkyl, C_3-C_{12}-cycloalkenyl, C_6-C_{12}-bicycloalkyl, C_6-C_{12}-bicycloalkenyl while the conflicting claims are drawn to compounds wherein R^2 in the conflicting compounds could represent C_3-C_{12}-cycloalkenyl and C_6-C_{12}-bicycloalkenyl. However, the other variables found in the instant claims (R^1, R^3, R^7-R^{11}) are all encompassed in the conflicting claims.

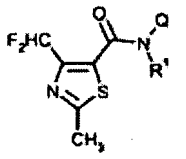
Therefore, it would have been obvious to one of ordinary skill in the art, when faced with the conflicting claims of Application No. 10/530513 to synthesize applicants' instantly claimed compounds for use in preparation of a composition used in controlling unwanted microorganisms, since compounds of similar scope had been administered

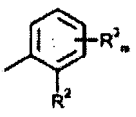
as part of a method to treat the same condition. The motivation would be the expectation of success in use of applicants' compounds in use of controlling unwanted microorganisms.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Rejection II:

Claims 13-16, 18 and 20-23, now the equivalent of new Claims 24-31, are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-33-37 of copending Application No. 10/502994. Although the conflicting claims are not identical, they are not patentably distinct from the pending claims because applicants are claiming compounds of the following structure



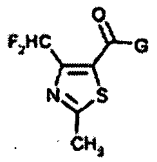
where Q represents  and

R^1 represents hydrogen, C_1-C_8-alkyl, C_1-C_8-alkylsulfinyl, C_1-C_8-alkylsulfonyl, C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_8-cycloalkyl; represents C_1-C_8-haloalkyl, C_1-C_4-haloalkylsulfanyl, C_1-C_4-haloalkylsulfinyl, C_1-C_4-haloalkylsulfonyl, halo-C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_8-halocycloalkyl having in each case 1 to 9 fluorine, chlorine and/or bromine atoms; or represents $-COR^7$, $-CONR^8R^9$, or $-CH_2NR^{10}R^{11}$,

R^2 represents C_3-C_{12}-cycloalkyl, C_3-C_{12}-cycloalkenyl, C_6-C_{12}-bicycloalkyl, C_6-C_{12}-bicycloalkenyl, each of which is mono- or polysubstituted by identical or different substituents selected from the group consisting

of halogen, cyano, hydroxyl, C_1-C_8-alkyl, C_1-C_8-alkoxy, C_1-C_8-haloalkyl having 1 to 9 fluorine, chlorine, and/or bromine atoms, and C_1-C_8-haloalkoxy having 1 to 9 fluorine, chlorine, and/or bromine atoms,

R^3 represents fluorine, chlorine, bromine, or methyl,
and m represents 0, 1, 2, 3, or 4, , a composition comprising one of said compounds and one or more extenders and/or surfactants, a method for controlling unwanted microorganisms comprising applying an effective amount of one of said compounds, a process for preparing a composition comprising mixing one of said compounds with one or more extenders and/or surfactants, and a process of preparing said compound comprising reacting

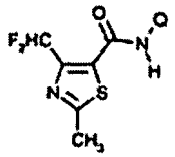


(II)

in which G represents halogen, hydroxyl, or C_1-C_6-alkoxy,
with an aniline derivative of formula (III)

H_2N–Q (III)

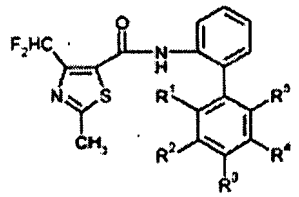
in which Q is as defined for formula (I) in Claim 13,
in the presence of an acid binder and in the presence of a diluent
to form a compound of formula (I-a)



(I-a)

in which Q is as defined for formula (I) in Claim 13, and

Conflicting claims 22-33, 35-37 of copending Application No. 10/502994 are drawn to compounds of formula



wherein

R^1, R^2, R^3, R^4, and R^5 independently of one another represent hydrogen, halogen, cyano, nitro, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_1-C_4-alkoxy, C_1-C_4-alkylthio, C_1-C_4-alkylsulphonyl, or C_3-C_6-cycloalkyl, or represent C_1-C_4-haloalkyl, C_1-C_4-haloalkoxy, C_1-C_4-haloalkylthio, or C_1-C_4-haloalkylsulphonyl having in each case 1 to 5 halogen atoms, with the proviso that R^1, R^2, R^3, R^4, and R^5 do not simultaneously represent hydrogen, or

R^1 and R^2 together or R^2 and R^3 together optionally also represent optionally halogen- or C_1-C_6-alkyl-substituted alkenylene.

and in further claims, the substituents (R^1-R^5) are further limited:

R^1, R^2, R^4, and R^5 each represent hydrogen, and

R^3 represents fluorine, chlorine, bromine, methyl, trifluoromethyl, trifluoromethoxy, or trifluoromethylthio.

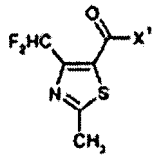
i.e. or

R^1, R^3, and R^5 each represent hydrogen, and

R^2 and R^4 independently of one another represent halogen, cyano, nitro, C_1-C_6-alkyl, C_2-C_6-alkenyl, C_1-C_4-alkoxy, C_1-C_4-alkylthio, C_1-C_4-alkylsulphonyl, or C_3-C_6-cycloalkyl, or represent C_1-C_4-haloalkyl, C_1-C_4-haloalkoxy, C_1-C_4-haloalkylthio, or C_1-C_4-haloalkylsulphonyl having in each case 1 to 5 halogen atoms.

as well as a composition comprising one of said compounds and one or more extenders and/or surfactants, a method for controlling unwanted microorganisms comprising applying an effective amount of one of said compounds, a process for preparing a composition comprising mixing one of said compounds with one or more extenders and/or surfactants, and a process of preparation of the following said compound comprising

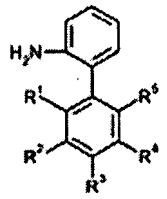
(a) reacting a difluoromethylthiazolylcarbonyl halide of formula (II)



(II)

in which X^1 represents halogen,

with an aniline derivative of formula (III)

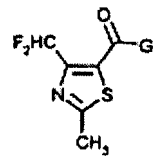


(III)

in which R^1, R^2, R^3, R^4, and R^5 are as defined for formula (I) in Claim 22,

optionally in the presence of an acid binder and optionally in the presence of a diluent, or

The difference between the claims at issue and the conflicting claims is found in the scope of the claims. The instant claims are drawn to compounds wherein R^2 can represent C_3-C_{12}-cycloalkyl, C_3-C_{12}-cycloalkenyl, C_6-C_{12}-bicycloalkyl, C_6-C_{12}-bicycloalkenyl while the conflicting claims are drawn to compounds wherein R^2 in the conflicting compounds could represent C_3-C_{12}-cycloalkenyl and C_6-C_{12}-bicycloalkenyl. However, the substitutions of variables R^1-R^5 of the compounds found in the conflicting claims are all encompassed in the instant claims. Thus, the compounds of the conflicting claims are found within in the instant claims. Additionally the process of preparation the instant claims is drawn to reacting a compound of formula



wherein G represent halogen, hydroxyl, or C_1-C_6-alkoxy with an aniline derivative of H_2N-Q. In the conflicting claims, G represents halogen. Thus the claims

overlap in scope and the process of the conflicting claims is found within the instant claims.

Therefore, it would have been obvious to one of ordinary skill in the art, when faced with the conflicting claims of Application No. 10/502994 to synthesize applicants' instantly claimed compounds for use in preparation of a composition used in controlling unwanted microorganisms, since compounds of similar scope had been administered as part of a method to treat the same condition. The motivation would be the expectation of success in use of applicants' compounds in use of controlling unwanted microorganisms.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen Cheng whose telephone number is 571-272-6233. The examiner can normally be reached on M-F, 9AM to 5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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